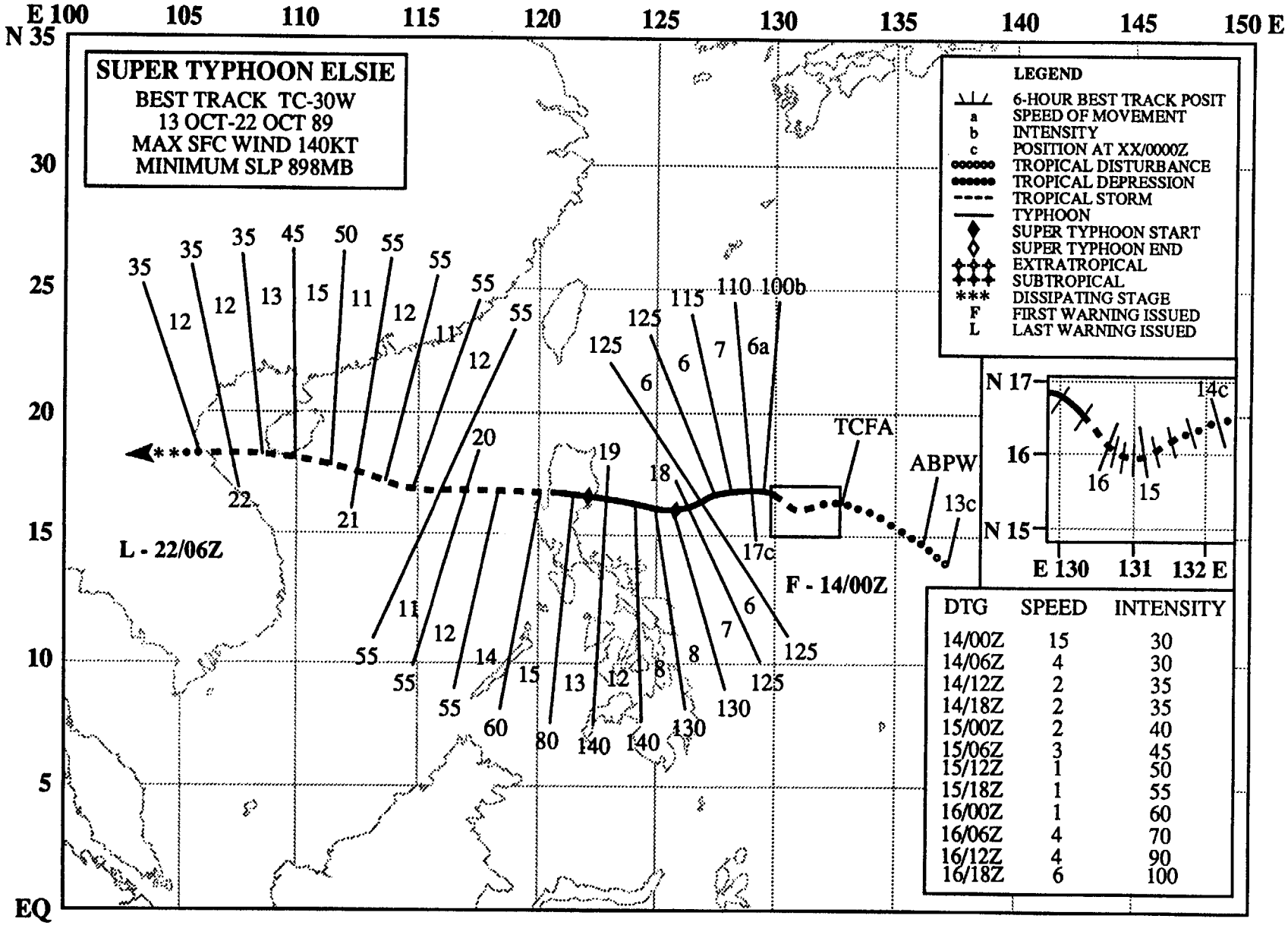
SUPER TYPHOON ELSIE
BEST TRACK TC-30W
13 OCT-22 OCT 89
MAX SFC WIND 140KT
MINIMUM SLP 898MB
LEGEND
6-HOUR BEST TRACK POSIT
SPEED OF MOVEMENT
INTENSITY
POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
L - 22/06Z
F - 14/00Z
TCFA
ABPW
E 100 105 110 115 120 125 130 135 140 145 150 E
N 35 30 25 20 15 10 5 EQ
N 17 16 N 15
E 130 131 132 E
DTG SPEED INTENSITY
14/00Z 15 30
14/06Z 4 30
14/12Z 2 35
14/18Z 2 35
15/00Z 2 40
15/06Z 3 45
15/12Z 1 50
15/18Z 1 55
16/00Z 1 60
16/06Z 4 70
16/12Z 4 90
16/18Z 6 100

SUPER TYPHOON ELSIE (30W)

In the wake of Super Typhoon Angela (26W) and Typhoon Dan (29W), Super Typhoon Elsie became the third tropical cyclone to hit the Philippine Islands within 12 days. Elsie developed from a TUTT-induced wave in the easterlies and tracked westward throughout its life. In the Philippine Sea, Elsie rapidly intensified and struck central Luzon with an intensity of 140 kt (72 m/sec). In news reports it was cited as the most intense cyclone to strike the Philippine Islands this year. Elsie weakened dramatically as it moved across the Philippines, and did not reintensity as it traversed the South China Sea. The cyclone dissipated after making landfall in central Vietnam.

In the middle of October the Tropical Upper Tropospheric Trough (TUTT) was well established in a east-west orientation across the western North Pacific. As Typhoon Dan (29W) made landfall in central Vietnam, a tropical disturbance developed approximately 670 nm (1240 km) east-northeast of Manila and started tracking west-northwestward. The system, first mentioned on the Significant Tropical Weather Advisory at 130600Z, was located between two small TUTT lows -- one located to the southwest and one located to the northeast of the disturbance. These TUTT lows enhanced the disturbance's upper-level outflow, and at 132330Z a Tropical Cyclone Formation Alert was issued. As the disturbance intensified, the first warning was issued on Tropical Depression 30W at 140000Z, followed by an upgrade to Tropical Storm Elsie at 141200Z. At that time, Elsie stalled as it moved into an area of weak steering flow between two subtropical highs.

Late on 15 October, Elsie began a "stair step" northwestward, as a mid-latitude short wave passed to the north. This short wave enhanced the outflow, and Elsie rapidly intensified from 60 kt (31 m/sec) to 110 kt (57 m/sec) in 24 hours. At 160600Z, Elsie was upgraded to a typhoon and became a super typhoon at 180600Z. Super Typhoon Elsie (Figure 3-30-1) reached its maximum intensity of 140 knots (72 m/sec) at 181800Z and then

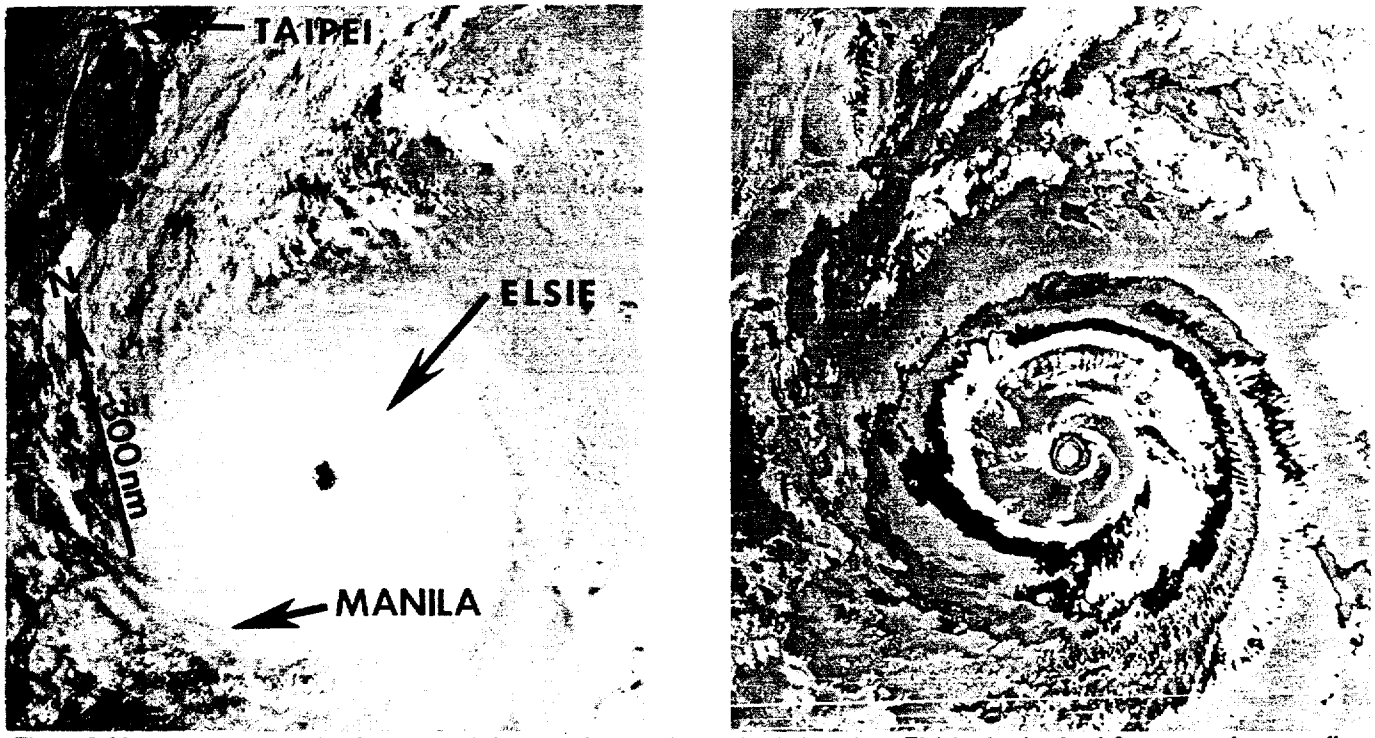

Figure 3-30-1. A matched pair of enhanced infrared (left) and visual (right) data show Elsie's classic cloud-free eye and surrounding central dense overcast (190000Z October NOAA visual and infrared imagery).

made landfall in central Luzon at 190300Z.

As it crossed Luzon, Elsie weakened rapidly due to frictional effects and the loss of oceanic sensible and latent heat sources . The system was downgraded to a typhoon at 190600Z, and then to a tropical storm at 191200Z. The tropical cyclone tracked westward along the south side of a northeast monsoonal surge. Vertical wind shear associated with the surge prevented Elsie from reintensifying in the South China Sea (Figure 3-30-2). The final warning was issued at 220600Z as Tropical Storm Elsie made landfall in central Vietnam. The remnants remained identifiable until they reached the mountainous terrain of Laos.

In the Philippines Super Typhoon Elsie left at least 17 dead, 50,000 homeless, and damage in the millions of dollars. John Hay Air Station and Wallace Air Station sustained a total of $30,000 damage, including damaged roofs, uprooted trees and destroyed sheds.

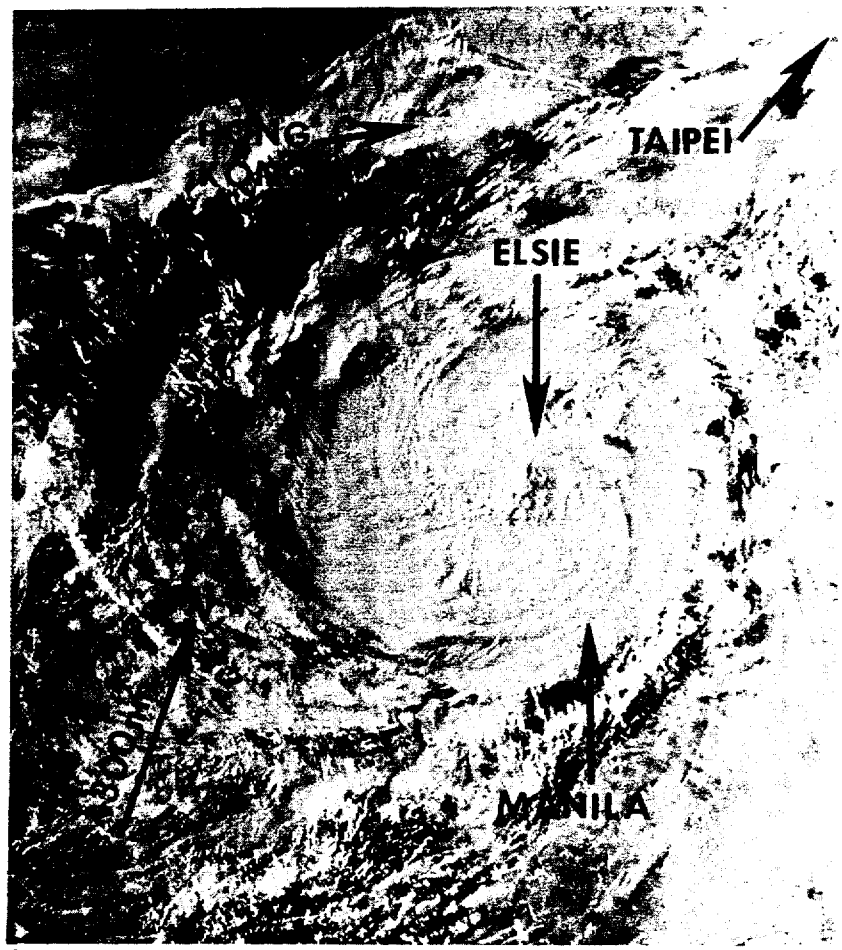

Figure 3-30-2. Elsie spins westward across the South China Sea and never regains typhoon intensity (192233Z October DMSP visual imagery).